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Biotechnology Notes

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Biotechnology Notes, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

INSIDE USDA

WEST GERMANY'S NEW "GENE LAW"

This is the second article in a series that covers meetings recently attended by Alvin Young, Director of USDA's Office of Agricultural Biotechnology (OAB), in France, West Germany, Belgium, and The Netherlands.

Young met with representatives of the four different ministries involved with biotechnology research and regulation, as well as with leading members of a Special Parliamentary Commission, which is just completing the task of drawing up a new "gene law" for Germany.

The law will provide oversight for all aspects of genetic engineering, including research and production facilities, contained use, deliberate release, and placing biotech products on the market. The law is expected to be in place July 1, 1990.

Most of the members of the German scientific community who met with Young said this comprehensive approach to regulation was necessary to gain public support for biotechnology in Germany. They hoped that once the law is in place, German companies and research institutes will begin to plan investments in new biotech programs and facilities in Germany.

HESS SPEAKS OUT ON BIOTECHNOLOGY

At a news conference held during a visit to the Stoneville Pedigreed Seed Co., March 27, in Stoneville, Miss., Assistant Secretary of Agriculture for Science and Education Charles Hess said biotechnology can be useful in helping the United States "remain competitive in the global marketplace and sensitive in the environmental area." He said biotechnology is a tool "that must be treated with respect and used with care -- it is not an evil genie that must be kept bottled up in its lamp."

AGRO-ETHICS: A MATTER OF CHOICES

Trustworthy, supportive, giving -- this is the profile of the traditional farm family. But what happens when these values come face-to-face with the modern day concept of intellectual property rights, and the desire to "own" rather than share an idea. Such questions often go to the root of decisions being made today concerning

research and technology. David MacKenzie, principal plant scientist with USDA's Co-operative State Research Service (CSRS), discussed this issue and others at a CSRS-sponsored symposium, March 12, entitled "Agro-Ethics and Agricultural Research."

MacKenzie said concern with the environment and preserving the ecology may be in conflict with traditional farm values that emphasize production. He said there needs to be a balance and that ethics -- individual, group, urban, or rural -- is the foundation on which those decisions are made.

APHIS COORDINATES U.S. DRAFT

Representatives from the USDA, the Food and Drug Administration, the Environmental Protection Agency (EPA), the Office of Science and Technology Policy, and the Council on Environmental Quality met at the U.S. State Department, March 8, to discuss the current Organization of Economic Cooperation and Development (OECD) paper on Good Industrial Large-Scale Practices for Microorganisms. John Payne of the Animal and Plant Health Inspection Service's (APHIS) Biotechnology, Biologics, and Environmental Protection (BBEP) unit, will coordinate revisions submitted by U.S. agencies. OECD-member countries will then meet in Paris, May 9-10, and continue to develop the paper.

OAB BRIEFS FRENCH VISITORS

Public policy, research guidelines, international relations, risk assessment, and public attitudes were a few of the topics covered by OAB Director Alvin Young and his staff and by David MacKenzie, director of USDA's National Biological Impact Assessment Program, March 1, in a briefing for French parliamentarian Daniel Chevallier and members of his staff.

Chevallier, who is also a plant physiologist, is studying biotech development in France and touring the United States to get an overview of research and technology assessment programs in this country. The French team also met with officials at Cornell University, Dupont, the EPA, the Office of Technology Assessment, and the National Wildlife Federation. After leaving USDA, the group went on to South America.

SCIENTISTS JOIN OAB

Three science experts have begun temporary 6-month assignments to OAB, including John Gerber, former director of the Biotechnology Institute at the University of Florida, Gainesville; Marshall Phillips, research chemist with the Agricultural Research Service's National Animal Disease Center, Ames, Iowa; and Milton Robinson, an environmental science specialist with the Forest Service in Denver, Colorado. They will review and evaluate issues related to biosafety.

BRINGING BIOTECH TO KENYA

Kenya is striving to take a leadership role in bringing biotechnology research and development activities to Africa. How to do this was the main focus of an international meeting of the National Conference on Plant and Animal Biotechnology, held in Nairobi, Kenya, February 25 - March 3, 1990.

About 370 participants, mostly Kenyans, became acquainted with biotech advances worldwide and the potential impact these breakthroughs could have in the plant and animal sciences. Those attending developed recommendations with a possible action plan. The recommendations could be used by the Kenyan government, which is considering establishing a biotechnology center in Kenya. It is hoped that such a center would derive its main impetus from Kenyan researchers, administrators, and attorneys who are knowledgeable about ag biotech issues.

Among the expert speakers was George Shibley, senior staff microbiologist with the BBEP unit at APHIS. He presented a paper he co-authored with David Espeseth, Deputy Director, Veterinary Biologics unit, APHIS, entitled "Current USDA Policy for Licensing and Field Testing Live Recombinant Derived Veterinary Biological Products." Shibley described the step-wise process that has evolved at USDA for licensing products of biotechnology and for issuing permits to conduct field tests. At the meeting, Shibley also chaired the session on transgenic animals.

NEWS AROUND THE COUNTRY (AND THE WORLD)

IBA AND STATE REGULATIONS

The Board of Directors of the Industrial Biotechnology Association (IBA), meeting in Ft. Lauderdale, Fla., February 21, adopted a position paper on the need to minimize state duplication of Federal regulations, saying such state laws are costly and time-consuming. The Board feels states can be more effective by working more closely with Federal regulatory bodies and with the framework already in place concerning application review and approval.

"MAKING USEFUL PRODUCTS FROM BIOTECHNOLOGY"

That's the mission of the University of Florida's Interdisciplinary Center for Biotechnology Research, a multi-million dollar research complex located in Gainesville, Florida. The Center provides support facilities, including specially designed labs for containing plants and animals, for about 300 researchers who work in agricultural, medical, microbial, and veterinary biotechnology. In addition, the Center provides advanced educational opportunities in biotechnology for teachers throughout the State of Florida.

The Biotechnology Institute for Technology Transfer, located in Alachua, Fla., commercializes the University's inventions by developing biotechnology products, marketing patents, and establishing biotech enterprises. Its former director, John Gerber, is now on assignment to USDA's OAB. To learn more about these biotech centers, call Sheldon Schuster, Center Director, at 904-392-8408.

HOW NOW IN VITRO COW

The February 1990 issue of Beef reports on the birth at the University of Missouri last December of a test-tube bull calf. Scientists matured and fertilized an egg in

a laboratory petri dish, nurtured it for 7 days, and then transplanted the embryo, non-surgically, into an Angus cow. An artificial insemination "gun" deposited the embryo in the surrogate mother.

This project is unique because scientists were able to grow the fertilized egg long enough to reach the blastocyst stage of development -- 7 days -- and implant it without surgery. To reach the blastocyst stage they used a co-culture system of bovine oviduct cells. Previously, researchers had to surgically implant the embryo at the two- to four-cell stage into the oviduct of a rabbit or sheep and, several days later, implant it in the cow. Researchers say the new non-surgical approach is less stressful to the animal, easier, and less costly. The University of Missouri laboratory is one of the few in the world that has produced calves by this process.

POSTER PAPERS REQUESTED FOR ASA MEETING

Poster papers are now being requested for the upcoming annual meeting of the American Society of Agronomy, North Central Branch, to be held July 30-31, at the University of Minnesota, St. Paul campus. Any subject relating to agronomy, soil science, or related subjects is appropriate. Send the title, authors, and abstract to W. E. Larson, Soil Science Department, 1991 Upper Buford Circle, 439 Borlaug Hall, University of Minnesota, St. Paul, Minn. 55108. Papers will not be accepted if notice has not been received by June 15, 1990.

The meeting begins with a general session followed by three concurrent workshops on: 1) biotechnology; 2) practicing agronomists; and 3) academics/students. The one-half day biotechnology session, entitled "Getting Biotech Into the Field" focuses on science, policy, regulatory, and communication issues. The program planned for the practicing agronomists will be interactive and informative, with topics ranging from nitrogen testing to the evaluation and interpretation of agronomic data. The academic sessions will focus on career opportunities, grant writing, and poster papers.

To register contact Nancy Harvey at 612-625-8215. For more information about the workshops, call W. E. Larson at 612-624-8714.

IBA VOICES CONCERN TO USTR

Representatives of the IBA met with officials from the U.S. Trade Representative's office March 12 to discuss trade issues and U.S. competitiveness in biotechnology. The IBA said it was opposed to the European Community adding a fourth criterion -- socio-economic effects -- for product approval. IBA president Richard Godown said "questions related to social impact are purely political in nature and ought not to be part of the regulatory process." The current three standards used to approve products of biotechnology are safety, efficacy, and quality. Participants also discussed intellectual property rights and the U.S response to proposed European Community directives concerning restrictions of patents of plants and animals in Europe. Both the U.S. government and the IBA support the patentability of these inventions.

IN CASE YOU WEREN'T THERE

- "Trends in Biotechnology" was the theme of an international conference held in Stockholm, Sweden, March 11 through 14. Areas deemed important for further review and discussion were gene mapping, gene therapy and transgenic organisms, diagnostic and therapeutic applications (human and veterinary), environmental applications, legislation and regulation, and ethics. Although Sweden is not a member of the European Community, it is trying to decide whether to align its biotech policy with Great Britain and France or the overall European Community stance. The conference was an attempt to bring the issues into the public forum and provide credibility for future decisions.

NEW PUBLICATIONS

- Agricultural Biotechnology: Introduction to Field Testing, edited by H. Graham Purchase and David R. MacKenzie. March 1990. Prepared by USDA's Office of Agricultural Biotechnology. To receive information concerning ordering copies, write to H. Graham Purchase, Agricultural Biotechnology, P.O. Drawer V, Mississippi State, Miss. 39762.
- Biotechnology's Bitter Harvest: Herbicide-Tolerant Crops and the Threat to Sustainable Agriculture, by Rebecca Goldburg, Environmental Defense Fund; Jane Rissler, National Wildlife Federation; Hope Shand, Rural Advancement Fund International; and Chuck Hassebrook, Center for Rural Affairs. March 1990. Copies available from Jane Rissler at 202-387-3500.

UPCOMING MEETINGS

April 8-10: "Mapping Domestic Animal Genomes: Needs and Opportunities." University of Illinois at Urbana. Call 217-244-5616.

April 9-12: Plant Resistance to Insects: Toward a More Sustainable Agriculture. To be held at the Maryland Continuing Education Center, College Park, Md. Write to B.R. Wiseman, USDA-Agricultural Research Service, P.O. Box 748, Tifton, Ga. 31793; or call 912-382-6904.

April 17-20: The Eighth Annual Biotechnology Patent Conference. Rockville, Md. Sponsored by the American Type Culture Collection. Call 301-881-2600.

April 19: "Trade Opportunities for Biotechnology Firms Abroad." Gaithersburg, Md. Sponsored by Montgomery County, Maryland's High Technology Council. Call 301-762-6325.

April 23-27: Novel Strategies in Production and Recovery of Biologicals from Recombinant Microorganisms and Animal Cells. Eilat, Israel. Write to Secretariat, OHOLB Biological Conference, P.O. Box 19, Ness-Ziona 70450, Israel.

April 30-May 1: "Bridging the Gap Between Universities and Industry" is the theme of the Fourth Annual Conference on Commercialization of Biotechnology, sponsored by the Michigan Biotechnology Institute, and held in Lansing, Mich. Sessions include industrial and environmental biotechnology, food and agricultural biotechnology, medical biotechnology, and university resources available to industry. To register write to Michigan Biotechnology Institute, P.O. Box 27609, Lansing, Mich. 48909-9850.

May 7-11: Twelfth Symposium on Biotechnology for Fuels and Chemicals. Gatlinburg, Tenn. Sponsored by the Department of Energy, the Solar Energy Research Institute, the Oak Ridge National Laboratory, Badger Engineers Inc., and the American Chemical Society. For details call either 303-231-1753 or 615-574-6835.

May 13: "Field Testing Transgenic Rice: Biosafety Issues." Manila, Philippines.
Call S.K. Dutta, international coordinator, Howard University, Washington, D.C., at
202-636-6942.

May 23-25: Fourth International Meeting of the Association of Biotechnology Companies. Toronto, Ontario, Canada. Sponsored by the Association of Biotechnology Companies. Call 202-842-2229.

May 29-June 1: International Conference on Issues in Food Safety and Toxicology.
Michigan State University, East Lansing, Mich. Sponsored by the Center for Environmental Toxicology. Call 517-355-4466.

June 7-10: The Annual American Society for Microbiology Conference on Biotechnology. Chicago, Ill. Includes symposia, exhibits, poster presentations, and more than a dozen sessions on the latest advances in biotechnology. For details call Richard Bray, Director, Meetings, ASM, at 202-737-3600.

June 11-14: Fourth Annual Seminar on Analytical Biotechnology. Arlington, Va.
Call 301-898-3772.

June 20-22: "Biotechnology and International Trade: 1992 and Beyond" is the theme of a symposium to be held in Maastricht, The Netherlands. It is being planned by the International Federation of Institutes for Advanced Study. For details write to Ms. Rohini Acharya, IFIAS-Maastricht, Witmakersstraat, 10, 6211 JB, Maastricht, The Netherlands; or phone 043-250465. The FAX number is 043-218820.

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